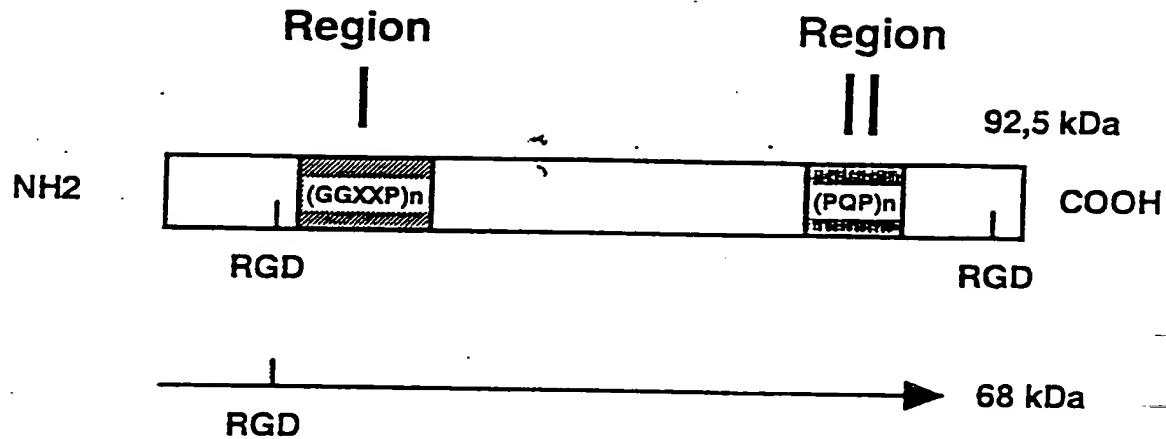


221

Fig. 1a: The two regions of repeats in *Bordetella bronchiseptica* pertactin



226

Fig. 1b: Multiple alignment of *B. bronchiseptica* pertactin in region I

236

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I-1      QRATIRRGDAPAGGAVPGGAVPG-----GFGPLLDGWYGVSDVSDSTVDLAQ
I-2      QRATIRRGDAPAGGAVPG-----GAVPG-----GFGPLLDGWYGVSDVSDSTVDLAQ
I-3      QRATIRRGDAPAGGGVPG-----GAVPG-----GFDPGGFGPGGFGFVLDDGWYGVSDVSGSTVELAQ
prn1     QRATIRRGDAPAGGAVPG-----GAVPG-----GAVPGGFGPGGFGFVLDDGWYGVSDVSGSSVELAQ
prn2     QRATIRRGDAPAGGAVPG-----GAVPGGFGPGGFGPGGFGFVLDDGWYGVSDVSGSSVELAQ
prn3     QRATIRRGDAPAGGAVPG-----GAVPG-----GFGPGGFGPGGFGFVLDDGWYGVSDVSGSSVELAQ
prn4     QRATIRRGDAPAGGAVPG-----GAVPG-----GFGPGGFGFVLDDGWYGVSDVSGSSVELAQ

***** .***          *****          *****:***** .*.***

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Fig. 1c: Multiple alignment of *B. bronchiseptica* pertactin in region II

250

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II-1      GAKAPPAPKPAPQPGPQPGP-----QPPQPPQP-PQRQP--EAPAPQPPAGRELSAA
II-2      GAKAPPAPKPAPQPGPQPGPQPP-----QPPQPPQP-PQRQP--EAPAPQPPAGRELSAA
II-3      GAKAPPAPKPAPQPGPQPGPQPGPQPGPQPPQPPQPPQP-PQRQP--EAPAPQPPAGRELSAA
II-4      GAKAPPAPKPAPQPGPQPGPQPGP-----QPPQPPQP-PQRQP--EAPAPQPPAGRELSAA
II-5      GAKAPPAPKPAPQPGPQPGPQPGQP-----PQPPQPPQP-PQRQP--EAPAPQPPAGRELSAA
II-6      GAKAPPAPKPAPQPGPQPGPQPPQPP-----QPPQPPQPPQP-PQRQP--EAPAPQPPAGRELSAA
II-7      GAKAPPAPKPAPQPGPQP-P-----QPPQPPQP-PQRQP--EAPAPQPPAGRELSAA
II-8      GAKVPPAPKPAPQPGPQP-PQPP-----QPPQPPQPGPQPGQP--EAPAPQPPAGRELSAA
II-9      GAKVPPAPKPAPQPGPQP-PQPP-----QPPQPPQPGPQPGQP--EAPAPQPPAGRELSAA
prn1      GAKAPPAPKPAPQPGPQP-----PQPPQP--QP--EAPAPQPPAGRELSAA
prn6      GAKAPPAPKPAPQPGPQP-----PQP---QP--EAPAPQPPAGRELSAA

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